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Socio-Emotional Intelligence in Colombian Children of Primary Education. An Analysis in Rural and Urban Settings

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Abstract

The aim of this study is to analyze Socio-Emotional Intelligence (SEI) of Colombian Children at Primary Education depending on the setting (rural vs. urban). For it, 1451 students in fourth and fifth grade of Primary Education took part in the study. The *Emotional Quotient Inventory: Youth Version* (EQ-i: YV, Bar-On & Parker, 2000) was the instrument used. The results showed that different dimensions of SEI were different according to the setting. Implications for education are discussed.

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Keywords: Socio-Emotional Intelligence; Colombian Children; Primary Education; Rural setting; Urban setting

1. Introduction

Salovey and Mayer (1990) were the first authors who offered a formal model of Emotional Intelligence (EI). They defined EI as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p. 5). This construct thenceforth has been the subject of multiple researches in the field of psychology (Cherniss, 2010; MacCann, 2010).

The scientific literature shows two types of theoretical models from which EI can be explained: a) Models based on the processing of emotional information, that is, focused on basic emotional abilities (Bracket, Rivers, &

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Salovey, 2011). In this regard, Mayer and Salovey (1997) identified four branches of EI: perception, appraisal and expression of emotion; emotional facilitation of thinking; understanding, analyzing and employing emotional knowledge; and reflective regulation of emotions to further emotional and intellectual growth. The first one is viewed as the most basic process, and the last requires the most complex processing. b) Mixed models of EI, where EI involves both intellectual and personality factors (Bar-On, 1997; Goleman, 1995). Thus, EI as a trait has been defined as "a composite construct that belongs to the lower-order personality taxonomies stratum of established" (Petrides & Furnham, 2001, p. 444). Within this second conceptual approach, Bar-On (2006) proposes the term Socio-Emotional Intelligence (SEI), which "is a cross-section of social and emotional interrelated competencies, skills and facilitators that determines how we understand and effectively express ourselves, understand others and relate with them, and cope with daily demands" (p. 14).

EI is relevant for the development and well-being of individuals (Petrides et al., 2010; Zeidner, Matthews, & Roberts, 2012). Thus, EI is related to personal and academic success (Bar-On, 2003; Pekrun, Elliot, & Maier, 2009; Saklofske, Austin, Mastoras, Beaton, & Osborne, 2012). Therefore, EI must be developed at school (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Saadi, Honarmand, Najarian, Ahadi, & Askari, 2012), what is consistent with the demands established from Positive Psychology for classroom interventions (Seligman, Ernst, Guillham, Reivich, & Linkins, 2009).

Despite what has been described, geographic location and socio-economic conditions affect the overall development of children in different areas (UNESCO, 2005, 2009, 2010, 2011). Usually in developing countries the vast differences between rural and urban settings are clearly identifiable (Richards et al., 2011; Whitfield, 2012). Latin America shows high levels of heterogeneity and a high percentage of rural population are living in poverty (Bértola, Meadows, & Williamson, 2010; Zezza & Llambí, 2002). In this respect, Ferreira and Gignoux (2011), in a study with six Latin American countries (Brazil, Colombia, Ecuador, Guatemala, Panama, and Peru), described an opportunity-deprivation profile that identifies the worst-off types in each society. Ethnic or racial minorities (indigenous or Afro-descendants) were the most opportunity-deprived. Mother's education, father's occupation, and region of birth were also relevant factors.

As Rodríguez, Sánchez, and Armenta (2010) argue, intervention programs that are designed in accordance with the needs and characteristics of the population are required to reduce educational inequities in the rural areas of developing countries. These authors analyze the success that the "Rural Education Project (PER)" has on Colombian rural schools. PER is based on flexible educational models and provides materials and methodologies that are adjusted to the rural student's learning needs. Results show that PER has a positive effect on efficiency and quality in rural schools. However, it would be appropriate that the development of such curricula was usual in the rural context. It is also important to ensure its effectiveness to maintain a process for monitoring and updating both methodologies and resources used with the students and the training provided to teachers.

The situation described above has motivated this research developed on rural and urban settings of Colombia. In this country, there are few studies on EI. One of them is the study of Ceron, Perez-Olmos, and Ibáñez (2011), which assesses the EI of adolescents 12 to 17 years, using the *Trait Meta Mood Scale* (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). They find the relationship between perceived EI and gender, with women scoring higher.

In agreement with the above, the purpose of this study was to analyze the SEI, using the Bar-On model (1997, 2006), of students in fourth and fifth grade of primary education, from the district of Boyacá in Colombia, according to their setting (rural vs. urban).

2. Method

2.1. Participants

The study included 1876 students of which, after the elimination of invalid cases applying the *inconsistency index* of the EQ-i: YV, the final sample consisted of 1451 students: 727 girls (50.1%), and 724 boys (49.9%), with a mean age of 10.38 years, *SD* = 1.12. They studied fourth grade, *n* = 638 (44%), and fifth grade, *n* = 813 (56%) of primary education, in rural public educational institutions, *n* = 690 (47.6%), and urban, *n* = 761 (52.4%). Furthermore, they belonged to three different districts of Boyacá in Colombia: Centro, *n* = 478 (32.9%), Tundama, *n* = 483 (33.3%), and Sugamuxi, *n* = 490 (33.8%).

The proportion of students from rural and urban areas in each of the three districts was almost the same. Thus, in Centro district, 49.6% belonged to a rural area (*n* = 237), and 50.4% to an urban area (*n* = 241); in Tundama district, 45.8% lived in a rural location (*n* = 221), and 54.2% in an urban location (*n* = 262); and in Sugamuxi, 47.3% lived in a rural location (*n* = 232), and 52.7% in an urban location (*n* = 258).

2.2. Instruments

The *Emotional Quotient Inventory: Youth Version* (EQ-i: YV, Bar-On & Parker, 2000) was used, a self-report instrument designed to measure emotional intelligence in young people. It consists of 60 items and is composed of five scales or domains: *intrapersonal*, with 6 items; *interpersonal*, 12 items; *stress management*, 12 items; *adaptability*, 10 items; and *general mood*, 14 items. The first four scales generate the *Total EQ*, being the general mood a facilitator of it. Finally, it also has two scales that control the validity of the test. The *positive impression scale*, consisting of six items, allows to show cases with an exaggerated positive perception (cases with standard scores above 130 are invalidated) and the *inconsistency index*, where cases that reach a value equal to or greater than 10, are invalidated by reflecting a high number of random responses.

The BarOn EQ-i: YV is suitable for with children and adolescents aged 7 to 18 years. Subjects have to respond to a *Likert* scale of four points (1 = Very Seldom or Not True of Me, 4 = Very Often or True of Me). For correction, scales are offered by gender and age groups (7-9, 10-12, 13-15, and 16-18 years). Direct scores allow to obtain three measures: Standard Scores; Level (Markedly Low, Very Low, Low, Average, High, Very High, and Markedly High), and Percentiles. In addition to estimating the level of EI, it generates an emotional and social profile. In this sense, Mayer et al. (2000) consider this model as a mixed model, integrating the dimensions social, emotional, cognitive and personality.

Psychometric requirements regarding test validity and reliability are guaranteed (Bar-On & Parker, 2000), besides being confirmed in different populations, such as American (Parker et al., 2005), Hungarian (Kun et al., 2012) and Spanish (Ferrándiz et al., 2012). Construct validity has been confirmed for this study. Thus, to verify the adequacy of the test a Factorial Analysis was conducted, the *Kaiser-Meyer-Olkin* index (KMO), with a value of .724, and the *Bartlett's esphericity* test, χ^2 = 35.932, *p* = .000, were obtained. Later, an Exploratory Factor Analysis using Principal Components Extraction with Varimax Rotation was developed, explaining 45.629% of the total variance and obtaining the following distribution of factors: general mood (11.960%), stress management (9.624%), adaptability (9.018%), interpersonal (8.802%), and intrapersonal (6.225%).

Similarly, the overall reliability of the test was calculated, with a value of .802 for *Cronbach's alpha*, and for each dimension: intrapersonal (α = .634), interpersonal (α = .751), stress management (α = .786), adaptability (α = .727), and general mood (α = .813).

2.3. Procedure

For this study, it was necessary to obtain the approval and endorsement of the Secretaries of the Education Department of Boyacá and from the three municipalities (Tunja, Duitama, and Sogamoso). Once obtained, a classroom was provided in each of the schools, which was usually the regular classroom, so that students could complete the instrument, previously having been given the required instructions for answering the test. The access to the rural sector schools was difficult due to the terrible condition of the roads and the lack of public

transportation. Therefore**,** the use of a motorcycle was the best way to travel to these areas. Once the data was collected, it was proceeded to remove as valid cases those who obtained a value equal to or greater than 10 in the *inconsistency index* of the EQ-i: YV, n = 425. Furthermore, there were no cases with a standard score on the dimension *positive impression* equal to or less than 130, *Minimum* = 63, *Maximum* = 118, M = 90.69, SD = 11.46. The Statistical Package SPSS for Windows (version 19.0) it was used for data analysis. Descriptive statistics (mean and standard deviation) were calculated for data representing, and analysis of variance was developed for quantitative analysis of the studied variables.

3. Results

An analysis of variance was conducted with repeated measures 6 x 2, in which SEI was introduced as within-subjects factor, with the five dimensions of EQ-i: YV and the Total EQ, expressed in Standard Scores; setting (rural, urban) was the between-subjects factor (see Table 1).

Table 1. Mean (and Standard Deviation) on the EQ-i:YV by setting

EQ-i:YV	Setting	
	Rural	Urban
Intrapersonal	98.70	98.74
	(12.60)	(13.78)
Interpersonal	90.18	92.10
	(14.03)	(13.55)
Stress Management	95.28	97.27
	(11.59)	(12.62)
Adaptability	98.65	99.72
	(14.63)	(13.97)
General Mood	103.08	104.33
	(11.42)	(11.80)
Total EQ	95.26	96.96
	(11.46)	(12.11)

Results showed significant effects for SEI, $F(5, 1445) = 304.917$, $p = .000$, $\eta_p^2 = .513$, setting, $F(1, 1449) = 8.454$, $p = .004$, $\eta_p^2 = .016$, and a significant interaction between SEI and setting, $F(7, 2894) = 3.354$, $p = .005$, $\eta_p^2 = .021$.

Bonferroni post-hoc contrasts indicated that children's scores for SEI showed statistically significant results when comparing the Intrapersonal domain with Interpersonal, $t = 7.577$, $p = .000$, Stress Management, $t = 2.447$, $p = .000$, General Mood, $t = 4.984$, $p = .000$, and Total EQ, $t = 2.613$, $p = .000$. Interpersonal domain was different from Stress Management, $t = 5.130$, $p = .000$, Adaptability, $t = 8.041$, $p = .000$, General Mood, $t = 12.562$ $p = .000$, and Total EQ, $t = 4.965$, $p = .000$. Stress Management was different from Adaptability, $t = 2.912$, $p = .000$, and General Mood, $t = 7.432$, $p = .000$. Adaptability was different from General Mood, $t = 4.520$, $p = .000$, and Total EQ, $t = 3.077$, $p = .000$. Lastly, General Mood was different from Total EQ, $t = 7.597$, $p = .000$.

On the other hand, the rural setting differed from the urban, $t = 1.330$, $p = .004$.

4. Discussion

A differentiated pattern in the SEI of students has been found. Thus, the dimension with a higher level of development is the *general mood*, which reflects the skills to maintain a positive attitude in life (optimism and happiness) and, although not part of emotional quotient or Total EQ obtained in EQ-i: YV, is a dimension that facilitates it (Bar-On & Parker, 2000). In second place are *intrapersonal* dimensions, the skills to understand own emotions and communicating them to others, and *adaptability*, that is to say flexibility and efficiency in resolving conflicts. Thirdly, it identifies *stress management*, which involves the skill to manage and control one's emotions, and *Total EQ*; being in last place, as mentioned above, the *interpersonal* dimension, that is, the ability to understand and appreciate the emotions of others.

Furthermore, it reveals a clear differentiation between rural and urban setting in SEI, which is consistent with studies indicating heterogeneity between the two contexts in the Latin American field (FAO & UNESCO, 2004; RIMISP, 2012). These differences are marked by the difficult access to rural schools, the contrast in infrastructure and quality of educational materials between the two sectors, in addition to the curriculum with "urban bias", which makes them unsuitable given its decontextualization (Rodríguez et al., 2010). Educational advancement of the rural sector requires specific educational activities, improving school infrastructure, food, health, basic educational equipment, the implementation of educational policies aimed at improving the quality of education, initial and continuing teacher and improving wage conditions and teacher incentives (Stelmach, 2011). Similarly, there is an education in rural habitat, but not an education for rural people that is clearly contextualized and created with the participation of rural and indigenous communities (UNESCO, 2009, 2010).

The schools have to facilitate the global development of children and young people, focusing on their social and emotional development (Saklofske et al., 2012), through a classroom atmosphere that enhances safety and positive emotions towards happiness of students (Seligman et al., 2009). Because of it, Social and Emotional Learning (SEL) has to be integrated as part of the curricula in the context of rural education, that is, the stimulation of EI (Saadi et al., 2012). Therefore, the success of educational interventions is generated by integrating contextual and motivational aspects that affect the use of these skills (Salovey & Grewal, 2005).

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